

Remarks

Applicants have added new Claim 49. That new claim recites that the austenite phase is present in an amount of 4.1% to about 40%. This range is inherently supported by the “40% or less” language. The Applicants, nonetheless, invite the Examiner’s attention to Tables 3 and 7 on Pages 32 and 36, respectively, wherein a wide variety of percentages of residual austenite are specified. The 4.1% end point is among those. Entry into the official file and consideration on the merits is respectfully requested.

The Applicants note with appreciation the withdrawal of the prior provisional double-patenting rejection of Claims 25 – 36 based on Claims 1 – 12 of co-pending Application No. 10/568,154.

Claims 25, 27 – 29, 31, 35 and 36 stand provisionally rejected on the grounds of non-statutory obviousness-type double patenting over Claims 24 – 35 of co-pending Application No. 10/568,154. The Applicants respectfully submit that this rejection need not be addressed inasmuch as it is provisional.

Claims 25, 27 – 29, 31, 35, 36 and 48 stand rejected under 35 USC §103 over the hypothetical combination of ASM Handbook with Kushida. The Applicants note with appreciation the Examiner’s detailed comments hypothetically applying that combination against those rejected claims, particularly those comments set forth in Paragraphs a and b on Page 6. The Applicants respectfully submit that even if one skilled in the art made the hypothetical combination, the steel pipes resulting from such a combination would still be different from the subject matter of the Applicants’ claims. Detailed reasons are set forth below.

The Applicants have previously noted that their microstructure comprises residual austenite phase that is present, but in an amount that is about 40% or less, about 10 to about 60%

ferrite phase, and about 25% or more martensite phase. The Applicants have also pointed out that this structure readily distinguishes over Kushida inasmuch as Kushida is limited to a ferrite phase and a martensite phase.

The rejection disagrees and states:

Kushida does not specifically disclose that the stainless steel compositions contain residual austenite phase. However, it is known in the art that a martensitic phase results from quenching steel with an austenitic phase. Therefore, since Kushida does not teach 100% conversion from austenite to martensite one of ordinary skill in the art would have expected that the base metal of Kushida would additionally contain residual austenite phase.

The Applicants respectfully submit that this position is in error given the overall disclosure of Kushida. Kushida provides very specific teachings in both the text and several of the tables that are particularly illuminating. For example, the Applicants invite the Examiner's attention to Col. 7 beginning at Line 39 and extending through Line 21 of Col. 8. That text provides specific teachings wherein the martensite phase is 55 – 90% while the ferrite phase is 10 – 45%. Simple mathematics of adding 55 plus 45 and 90 plus 10 reveals that 100% of the microstructure phases are accounted for by ferrite and martensite. There is no residual austenite because the microstructure has otherwise been fully accounted for.

This is particularly true when austenite, when present, is otherwise accounted for. This can be seen at Col. 8, Lines 22 – 24, for example, wherein austenite is present at that point and is fully accounted for.

However, there is more. The Applicants invite the Examiner's attention to Table 1 for the base metals. Those base metals include Base Metals A, B, C, D and E. In that case, austenite is specifically accounted for and is determined to be not present at all as indicated by the zero percentage. This is contrasted to the weld metal wherein austenite is present and is provided in

specific amounts. Thus, this confirms the absence of residual austenite in the base metals as set forth in Cols. 7 and 8.

The Applicants have otherwise completely reviewed the entirety of the Kushida disclosure and there is no discussion concerning the presence of residual austenite when martensite and ferrite are otherwise present. The Applicants accordingly respectfully submit Kushida is quite clear with respect to the Kushida microstructures. The microstructures containing martensite and ferrite simply do not contain residual austenite by virtue of the specific teachings of the percentages of 55 – 90% martensite and 10 – 45% ferrite, as well as the explicit teaching of the absence of austenite in the base metals.

This is sharply contrasted to the Applicants' claims which recite the presence of residual austenite and as reinforced in various of the Applicants' tables such as in Tables 3 and 7 wherein a wide range of residual austenite phase is present.

The Applicants respectfully submit that the hypothetical combination of ASM Handbook with Kushida, fails to cure the deficiencies set forth above with respect to Kushida. Withdrawal of the rejection is respectfully requested.

The rejection also speculates that one skilled in the art would have expected that the base metal of Kushida would contain residual austenite phase in addition to the martensitic and ferritic phases, and it would be expected that the microstructure of the seamless steel pipe of Kushida in view of ASM Handbook would also contain all three (3) phases. The Applicants respectfully submit that this is again speculation and cannot be correct in view of the explicit teachings of Kushida. These are facts that cannot be disputed.

The Applicants once again invite the Examiner's attention to Table 1 of Kushida which specifically recites that the base material of Kushida does not contain austenite phase. The Base

Metals A, B, C, D and E are all taught as having zero austenite. Nothing could be clearer. Austenite simply is not present in Kushida.

Also, Kushida relates to large diameter, thick walled martensitic stainless steel welded pipe for pipelines. The manufacturing methodology for making those steel pipes may be found at Col. 14, Lines 26 – 30 wherein it is taught a hot-wheeled steel strip or thick steel plate is subjected to cold working to be formed into a cylindrical form.

This is sharply contrasted to the Applicants' stainless steel pipes that are typically used in oil wells and have a high yield strength of 654 MPa or more and superior corrosion resistance even in severe corrosive environments in which CO₂ and Cl⁻ are present and the temperature is high such as up to about 230°C. As noted in the Applicants' Specification, their manufacturing method as specifically set forth on Page 19 beginning at Line 18 and extending through Line 13 of Page 21, steel pipe materials are heated and processed by hot working to make a pipe for processing in a general Mannesmann-plug mill method or a Mannesmann-mandrel mill method.

The Applicants respectfully submit that the Applicants' methods for making their steel pipes are completely different from those of Kushida and, as a result, it is only speculation that austenite would be present in the Kushida steel pipes as compared to the Applicants' steel pipes.

It is simply the case that Kushida affirmatively teaches that there is no austenitic phase in their base materials. It is unsupported speculation to take a contrary position. This is sharply contrasted to the Applicants' Claim 25 which recites that a residual austenite phase is present but in an amount that is about 40% or less. Withdrawal of the rejection based on the hypothetical combination of ASM Handbook with Kushida is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'TDC', written above the printed name.

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